

March 22, 2005
Case No.: DP-304183 (7500/60)
Serial No.: 09/943,961
Filed: August 31, 2001
Page 11 of 18

-- REMARKS --

In the Non-Final Office Action, Examiner Leykin rejected pending claims 28-54 on various grounds. The Applicant responds to each ground of rejection as subsequently recited herein, and respectfully requests reconsideration and further examination of the present application under 37 CFR § 1.112:

- A. Examiner Leykin rejected claims 28, 29, 32-35, 37, 38, 41-44, 46, 47 and 50-53 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,411,060 B1 to *Jung* in view of U.S. Patent No. 6,448,736 B1 to *Lajsner* et al.

The Applicant has thoroughly considered Examiner Leykin's remarks concerning the patentability of claims 28, 29, 32-35, 37, 38, 41-44, 46, 47 and 50-53 over *Jung* in view of *Lajsner*. The Applicants have also thoroughly read *Jung* and *Lajsner*. To warrant this 35 U.S.C. §103(a) rejection of claims 28, 29, 32-35, 37, 38, 41-44, 46, 47 and 50-53, all of the claim limitations recited in independent claims 28, 32-35, 37, 41-44, 46 and 50-53 must be taught or suggested by the combination of *Jung* and *Lajsner*. See, MPEP §2143. The Applicant respectfully traverses this §103(a) rejection of claims 28, 29, 32-35, 37, 38, 41-44, 46, 47 and 50-53, because *Jung* and *Lajsner* in combination fail to disclose, teach or suggest the following limitations of independent claims 28, 32-35, 37, 41-44, 46 and 50-53:

1. "subsequent to the aligning of the rotor pole and the stator pole, preliminarily cranking the rotor in a direction as dictated by the actuation command for a predetermined time period to thereby facilitate a subsequent rotation of the rotor to a holding position" as recited in independent claim 28;

March 22, 2005
Case No.: DP-304183 (7500/60)
Serial No.: 09/943,961
Filed: August 31, 2001
Page 12 of 18

2. "identifying a first phase of the motor as a target phase defining an initial position of the rotor pole that corresponds to the alignment of the rotor pole and stator pole" and "subsequent to identifying the first phase of the motor as the target phase, exclusively exciting a second phase of the motor and the first phase of the motor in a sequential manner to thereby rotate the rotor pole to the initial position, the second phase being adjacent the first phase" as recited in independent claim 32;

3. "aligning the first phase of the motor to thereby align the rotor pole to a stator pole adjacent the target position", and "subsequent to aligning the first phase of the motor, concurrently exciting a third phase of the motor and a fourth phase of the motor to hereby align the rotor pole to the target position" as recited in independent claim 33;

4. "cyclically exciting a plurality of phases of the switched-reluctance motor in a sequential manner to thereby crank the rotor in the desired direction from the pre-alignment position" and "subsequent to cyclically exciting a plurality of phases of the switched-reluctance motor in a sequential manner, rotating the rotor in the desired direction to a holding position" as recited in independent claim 34;

5. "dithering the rotor upon the rotor being in the holding position for a predetermined time period" as recited in independent claim 35;

March 22, 2005
Case No.: DP-304183 (7500/60)
Serial No.: 09/943,961
Filed: August 31, 2001
Page 13 of 18

6. "means for, subsequent to the aligning of the rotor pole and the stator pole, preliminarily cranking the rotor in a direction as dictated by the actuation command for a predetermined time period to thereby facilitate a subsequent rotation of the rotor to a holding position" as recited in independent claims 37 and 46;

7. "means for identifying a first phase of the motor as a target phase defining an initial position of the rotor pole that corresponds to the alignment of the rotor pole and stator pole" and "means for, subsequent to identifying the first phase of the motor as the target phase, exclusively exciting a second phase of the motor and the first phase of the motor in a sequential manner to thereby rotate the rotor pole to the initial position, the second phase being adjacent the first phase" as recited in independent claims 41 and 50;

8. "means for aligning the first phase of the motor to thereby align the rotor pole to a stator pole adjacent the target position", and "means for, subsequent to aligning the first phase of the motor, concurrently exciting a third phase of the motor and a fourth phase of the motor to hereby align the rotor pole to the target position" as recited in independent claims 42 and 51;

March 22, 2005
Case No.: DP-304183 (7500/60)
Serial No.: 09/943,961
Filed: August 31, 2001
Page 14 of 18

9. "means for cyclically exciting a plurality of phases of the switched-reluctance motor in a sequential manner to thereby crank the rotor in the desired direction from the pre-alignment position" and "means for, subsequent to cyclically exciting a plurality of phases of the switched-reluctance motor in a sequential manner, rotating the rotor in the desired direction to a holding position" as recited in independent claims 43 and 52; and

10. "means for dithering the rotor upon the rotor being in the holding position for a predetermined time period" as recited in independent claims 44 and 53.

Specifically, neither *Jug* nor *Lajsner* teach or suggest (1) any type of preliminary cranking of a rotor, (2) any type of identification of one of the phases of a SR motor as a target phase with an excitation of a pair of phases to rotate a rotor to an initial position, (3) any type of alignment of a rotor pole to a target position, and (4) dithering a rotor upon reaching a holding position. Withdrawal of the rejection of independent claims 28, 32-35, 37, 41-44, 46 and 50-53 under 35 U.S.C. §103(a) being unpatentable over *Jug* in view of *Lajsner* is therefore respectfully requested.

Claim 29 depends from independent claim 28. Therefore, dependent claim 29 includes all of the elements and limitations of independent claim 28. It is therefore respectfully submitted by the Applicant that dependent claim 29 is allowable over *Jug* in view of *Lajsner* for at least the same reason as set forth herein with respect to independent claim 28 being allowable over *Jug* in view of *Lajsner*. Withdrawal of the rejection of dependent claim 29 under 35 U.S.C. §103(a) being unpatentable over *Jug* in view of *Lajsner* is therefore respectfully requested.

March 22, 2005
Case No.: DP-304183 (7500/60)
Serial No.: 09/943,961
Filed: August 31, 2001
Page 15 of 18

Claim 38 depends from independent claim 37. Therefore, dependent claim 38 includes all of the elements and limitations of independent claim 37. It is therefore respectfully submitted by the Applicant that dependent claim 38 is allowable over *Jung* in view of *Lajsner* for at least the same reason as set forth herein with respect to independent claim 37 being allowable over *Jung* in view of *Lajsner*. Withdrawal of the rejection of dependent claim 38 under 35 U.S.C. §103(a) being unpatentable over *Jung* in view of *Lajsner* is therefore respectfully requested.

Claim 47 depends from independent claim 46. Therefore, dependent claim 47 includes all of the elements and limitations of independent claim 46. It is therefore respectfully submitted by the Applicant that dependent claim 47 is allowable over *Jung* in view of *Lajsner* for at least the same reason as set forth herein with respect to independent claim 46 being allowable over *Jung* in view of *Lajsner*. Withdrawal of the rejection of dependent claim 47 under 35 U.S.C. §103(a) being unpatentable over *Jung* in view of *Lajsner* is therefore respectfully requested.

- B. Examiner Leykin rejected claims 30, 31, 36, 39, 40, 45, 48, 49 and 54 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,411,060 B1 to *Jung*, U.S. Patent No. 6,448,736 B1 to *Lajsner et al.*, and U.S. Patent No. 6,075,332 to *McCann*

Dependent claims 30, 31, 39, 40, 48 and 49. Claims 30 and 31 depend from independent claim 28. Therefore, dependent claims 30 and 31 include all of the elements and limitations of independent claim 28. It is therefore respectfully submitted by the Applicant that dependent claims 30 and 31 allowable over *Jung* in view of *Lajsner* and *McCann* for at least the same reason as set forth herein with respect to independent claim 28 being allowable over *Jung* in view of *Lajsner*. Withdrawal of the rejection of dependent claims 30 and 31 under 35 U.S.C. §103(a) being unpatentable over *Jung* in view of *Lajsner* and *McCann* is therefore respectfully requested.

March 22, 2005
Case No.: DP-304183 (7500/60)
Serial No.: 09/943,961
Filed: August 31, 2001
Page 16 of 18

Claims 39 and 40 depend from independent claim 37. Therefore, dependent claims 39 and 40 include all of the elements and limitations of independent claim 37. It is therefore respectfully submitted by the Applicant that dependent claims 39 and 40 are allowable over *Jung* in view of *Lajsner* and *McCann* for at least the same reason as set forth herein with respect to independent claim 37 being allowable over *Jung* in view of *Lajsner*. Withdrawal of the rejection of dependent claims 39 and 40 under 35 U.S.C. §103(a) being unpatentable over *Jung* in view of *Lajsner* and *McCann* is therefore respectfully requested.

Claims 48 and 49 depend from independent claim 46. Therefore, dependent claims 48 and 49 include all of the elements and limitations of independent claim 46. It is therefore respectfully submitted by the Applicant that dependent claims 48 and 49 are allowable over *Jung* in view of *Lajsner* and *McCann* for at least the same reason as set forth herein with respect to independent claim 46 being allowable over *Jung* in view of *Lajsner*. Withdrawal of the rejection of dependent claims 48 and 49 under 35 U.S.C. §103(a) being unpatentable over *Jung* in view of *Lajsner* and *McCann* is therefore respectfully requested.

Independent claims 36, 45, and 54. The Applicant has thoroughly considered Examiner Leykin's remarks concerning the patentability of independent claims 36, 45 and 54 over *Jung* in view of *Lajsner* and *McCann*. The Applicants have also thoroughly read *Jung*, *Lajsner* and *McCann*. To warrant this 35 U.S.C. §103(a) rejection of independent claims 36, 45 and 54, all the claim limitations recited in independent claims 36, 45 and 54 must be taught or suggested by the combination of *Jung* and *Lajsner*. See, MPEP §2143. The Applicant respectfully traverses this

March 22, 2005
Case No.: DP-304183 (7500/60)
Serial No.: 09/943,961
Filed: August 31, 2001
Page 17 of 18

§ 103(a) rejection of independent claims 36, 45 and 54, because *Jung, Lajsner* and *McCann* in combination fail to disclose, teach or suggest the following limitations of independent claims 36, 45 and 54:

1. “subsequent to rotating from a pre-alignment position to the holding position, reducing an ampere level of a phase current corresponding to the holding position as a function of a motor torque corresponding to the holding position” as recited in independent claim 36;
and
2. “means for, subsequent to rotating from a pre-alignment position to the holding position, reducing an ampere level of a phase current corresponding to the holding position as a function of a motor torque corresponding to the holding position” as recited in independent claims 45 and 54.

Specifically, neither *Jung, Lajsner* nor *McCann* teach or suggest reducing an ampere level of a phase current corresponding to the holding position as a function of a motor torque corresponding to the holding position. Withdrawal of the rejection of independent claims 36, 45 and 45 under 35 U.S.C. § 103(a) being unpatentable over *Jung* in view of *Lajsner* and *McCann* is therefore respectfully requested.

March 22, 2005
Case No.: DP-304183 (7500/60)
Serial No.: 09/943,961
Filed: August 31, 2001
Page 18 of 18

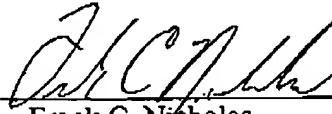
SUMMARY

Examiner Leykin's rejections of claims 28-54 have been obviated herein by the remarks supporting an allowance of claims 28-54 over the art of record. The Applicant respectfully submits that claims 28-54 as listed herein fully satisfy the requirements of 35 U.S.C. §§ 102, 103 and 112. In view of the foregoing amendments and remarks, favorable consideration and early passage to issue of the present application are respectfully requested. If any points remain in issue that may best be resolved through a personal or telephonic interview, Examiner Leykin is respectfully requested to contact the undersigned at the telephone number listed below.

Dated: **March 22, 2005**

Respectfully submitted,
BRUNO P. B. LEQUESNE, *et al.*

CARDINAL LAW GROUP
Suite 2000
1603 Orrington Avenue
Evanston, Illinois 60201
Phone: (847) 905-7111
Fax: (847) 905-7113



Frank C. Nicholas
Registration No. 33,983
Attorney for Applicants